Facility Operations Review of the Tevatron
at
Fermi National Accelerator Laboratory
March 16-18, 2004
TABLE OF RECOMMENDATIONS

Recommendations that are OPEN = 8, CLOSED = 20

1. Introduction	
Charge Point 1 (CP1): Is Laboratory management effectively setting priorities, tracking progress, resolving problems and communicating with key stakeholders? Charge Point 2: Are resources sufficient and appropriately allocated with a proper mix of skill sets and optimized to meet the stated mission, goals and objectives?	Charge Point 3: Are there any programmatic, technical and infrastructure risks? Charge Point 4: Is there an ongoing program of self-assessment aimed at continuously improving maintenance and operations? Charge Point 5 Is ES&H planning and implementation receiving appropriate attention?

2. *Accelerator and Technical Division*		
No.	**Recommendations**	**Status/Action**
CP2	In the face of restrained budgets, the Committee encouraged additional collaboration between Fermilab and other national laboratories and universities.	Most collaboration with other national laboratories and universities in the Technical Division is driven by the technical and logistical needs of the projects and is therefore on a case-by-case basis. It is an integral and important part of a management strategy for larger projects and many smaller, more confined projects benefit from collaborative efforts. Clearly projects such as the LHC IR Quadrupole Production, LHC Accelerator Research Program, and the High Field Magnet Program are all highly collaborative and depend on a strong interaction among national laboratories to be successful. A recent example of an emerging collaboration is in the area of Superconducting RF Cavity development and test. Here the lab has encouraged the SMTF proposal which would consist of an international collaboration of laboratories and universities that would address the fabrication and testing needs of the International Linear Collider, Proton Driver, Radioactive Isotope Accelerator, and other SC RF projects. TD and AD both are active in organizing this effort. In addition, the TD is responsible for operating the Lab's Machine Shop infrastructure. TD management (as part of the National Laboratories Manufacturing & Fabrication Management Peer Group) has been involved in efforts to share experiences and expertise among the machine shop groups at different laboratories. Although this effort is still in its infancy stages, the TD has already seen positive results via the ability to tap into a broad knowledge base for issues involving new machinery purchases and modernization techniques. Internal to Fermilab, the collaboration on joint efforts of the Accelerator and Technical Divisions is quite strong and getting better. Biweekly meetings between AD and TD management help to set the priorities and schedules of TD accelerator-related tasks. Efforts such as the fabrication of electrostatic separators and other unique high voltage devices have been moved into the TD to take advantage of production expertise and facilities. Work on the conceptual design of

		superconducting cavities and cryomodules is shared between the two Divisions to maximize efficiency. TD provides extensive trained labor to AD for accelerator shutdown work. The Accelerator Division has established a committee to explore and encourage university collaboration with the Accelerator Division. In addition, the Accelerator Division continues collaborations with Argonne, LBNL, Cornell. **Closed**
2.2.1	**Comment**: There may be some inefficiency in the distribution of skills, however, this does not appear to have a large impact, and perhaps a gain could be made on the few percent level. **Recommendation**: Explore areas where efficiencies can be gained by consolidating skill sets.	No large scale organizational changes are being planned at this time to make these small gains. Nevertheless, the Accelerator Division continues to assess and tune the organization to maximize efficiency. **Closed**
2.2.2	Maintain an active risk assessment program in all areas.	Risk assessment is part of accelerator operations and planning for the Run II project and the Proton Plan Project. In addition, the Accelerator Division will institute an annual report on reliability, identifying risks and vulnerabilities. The Accelerator Division has completed a vulnerability study of all components of the accelerator complex. To the extent permitted by fiscal reality the vulnerabilities are being addressed. Technical Division, in coordination with Accelerator Division, is constantly looking at risks associated with accelerator-related components. The Technical Division maintains an inventory of spare components and parts so that there is no single point accelerator failure that cannot be quickly recovered. This inventory is consistently monitored to reflect components moving into and out of service. The use of travelers to record the history of a magnet allows for quantification of the number of components that

		might be at risk for a particular type of failure. **Closed**

3. Research		
No.	**Recommendations**	**Status/Action**
CP2	Consider the evaluation of centralized computer and engineering support vs. the current distributed situation. Consider evaluation of centralizing the root/systems management of all desktops and work group servers.	The lab takes the operative word to be "support", that is to say we are discussing the support of computing and the support of engineering. Already some aspects of each are handled centrally. For example we have a Windows Policy Committee. We also have an attempt to handle "IDEAS" software centrally. The lab proposes to create two task forces to examine the issue. These task forces should follow the completion and interpretation of the FY2005 bottom-up manpower plan Creation of Task Forces (with charge and membership) 4th Quarter FY2005 **Open**
CP3	Fermilab should evaluate how to ensure that the stakeholders are not surprised should evolution and adjustment of the program be necessary.	The Fermilab Directorate has increased its attention to the area of expectation management. The following actions were taken: 1-The Directorate has renewed its resolve to discuss performance expectations of the accelerator complex at all levels from weekly All Experimenters' Meetings to Program Management Group Meetings and in other venues. Completed 3/2004 2- A series of reviews and weekly communications inform DOE of performance and performance expectations. The annual performance expectation for the collider at both design and base level is laid out and reported against on a weekly basis. Completed 3/2004 **Closed**

CP4	More comparisons with other high energy and nuclear physics laboratories may be useful.	In the research area one of the key self-assessments is that of the operation of the detectors. We should compare our own performance with that of analogous detectors. Indeed, done with care, some comparison with other laboratories, for example of the BaBar experiment at SLAC, and the RHIC experiments at BNL could be accomplished. Plan: Ask relevant persons at SLAC, TJNAF and BNL for their relevant self assessment information for potential use as informal metric in our own assessment. Complete by 7/1/2005 **Open**
CP4	Other areas for assessment should be considered, including: Staff Diversity, Staff Development, and Workplace Life issues.	Staff diversity is considered in all areas of the laboratory including research activities. The EEO office is responsible for monitoring the status of the laboratory and recommending diversity actions when opportunities occur during the staffing process. The laboratory has diversity goals that are agreed upon with the DOE and makes every effort to attain them. Staff development is also an ongoing activity at the laboratory principally associated with the Training and Tuition Reimbursement functions. Personnel interested in additional career development opportunities may avail themselves of these programs. Workplace life has not been noted as a problem by the management staff either directly or through employee complaints. Very low staff turnover indicates a certain degree of satisfaction with life in the workplace; further, few complaints regarding life in the workplace indicate the same. The laboratory will continue its existing efforts in these areas at this time since all DOE and URA expectations are met. **Closed**
3.2.1	**Comment**: There are concerns about the manpower available from the collaborations for CDF/D-Zero in the future due to	Many of the MOUs between major experiments and their member institutions are not routinely examined by the Fermilab Directorate. Plan: 1. Obtain information about the current status of all Collider Experiment MOUs. 2. Develop plan to ensure annual review and appropriate updates.

	competition from the LHC. **Recommendation**: Implement two-year rolling Memorandums of Understanding with the CDF/D-Zero collaborations in the FY 2004-2009 era to be reviewed by the Research Director. This will facilitate Fermilab in matching the support of the operations to the needs of the experiments.	3. Put the plan into routine action. Action: 1. Completed: 10/2004 2. In progress, due 3/2005 3. Planned 10/2005 **Open**
3.2.2	Extend the "bottom-up" manpower analysis for the period FY 2005- 2009 to determine the required skills mix and staffing levels needed for the anticipated program. Divisional management should perform this exercise with a view of the needs across Fermilab.	Bottoms-up manpower analysis exists for the Run II Project, the Proton Plan and BTeV. We are accumulating data to understand the operating requirements for the physics program, and will use this data to develop a manpower plan for the years 2005- 2009. The Technical Division has adopted a project based manpower analysis tool that helps to quantify the staffing needs in the present and the future. The accuracy of projecting the needs is predicated on the level of knowledge of the projects that will be worked on and their schedules. Out-year projections are inherently unreliable but are useful to gain insight into the general direction for various skilled personnel. In some cases it has proven better to move part of a job to a different division (or outsource to a vendor) rather than to build up capabilities internal to the Technical Division. As part of the effort to maintain an adequate balance of M&S and SWF budgets, Technical Division has implemented a strict protocol for filling personnel needs. When a need arises a check is made to see if it can be filled internally by the Division by reassigning people. If not, Technical Division looks to other Divisions for a possible individual to fill the need. If the need is temporary and cannot be filled internal to Fermilab, a contract or term position is requested. Finally, all external openings are

		analyzed (before submission) to assure that any hire fills both the immediate need and is of long-term benefit to the Division. It is at this point that the required skill set mix, in the Division, is scrutinized. Particle Physics Division is currently developing a 5-year staffing plan, covering the years FY2005 – FY2009. This plan is being developed on an "activity basis," in which each experiment, R&D project, or other program leader is asked to provide an estimate of the staff required to carry out that program over the next five years. Relevant leaders of the support departments, that will provide much of the staff, are explicitly included in developing the staffing estimates. In cases where the future development of a program is not certain, e.g. a proposed but not yet approved experiment, staffing requirements for more than one potential scenario are developed. Work done by Particle Physics Division in support of accelerator instrumentation, operations, maintenance and upgrades is explicitly included in the staffing plan. Collection and tabulation of the staffing plan data from all Particle Physics Division activities is expected to be complete by mid-February 2005. Analysis of and iteration on the plan will follow, and its use as a planning tool will be on-going. Computing Division has again conducted an in-depth review of the individuals in the Division. Early in the fiscal year we terminated the "operator" function and laid off or redirected the remaining staff in that area. The computing center now operates entirely automatically off hours. In order to understand how to staff the intended large new project, BTeV, a plan was developed almost at the level of individuals which embodied the personnel moves needed. This was multi-year but fell short of five years. With the current adjustment of direction following the decision to cancel BTeV, the information will be reexamined. Finally, with the understanding that the budgets would no longer support a FNAL staff at the previously assumed level, the studies of the staff functions were used to develop an understanding of where losses could be tolerated. The Computing Division and the Particle Physics Division report to the same Associate Director and weekly meetings establish opportunities for cross divisional transfers both in the long and the short term.

		In order to fully address the recommendation, we hope to reintroduce a Labwide taskforce to develop a better Labwide understanding. The timescale for organization of this task force would be Summer 2005. Complete 4th Quarter FY2005 **Open**

4. Business and Finance		
No.	**Recommendations**	**Status**
CP2	The Directorate needs to pay attention to the "lean" support services functions. While the organization is now capable of meeting the needs and demands, the budget process needs to ensure that appropriate consideration is given to properly staffing and funding the Business and Finance section.	Business Services Section management believes that the budget process ensures that appropriate consideration is given to proper staffing of the section. Evidence of this includes: 1) The Director's annual budget reviews afford structured communication opportunities to discuss and consider budget and staffing issues in the presence of other division and section management, 2) Replacements for terminating staff are approved by the Directorate in a timely manner or modifications to service levels are agreed upon, Funds are made available after appropriate consideration for special business information systems improvement projects that would improve efficiency and/or business operational capabilities. **Closed**
CP4	Additional management metrics for self-assessment, risk management, and opportunity to identify areas for continuous improvement are encouraged. These metrics should be	The self-assessment process continually undergoes improvement activities at the Laboratory. In negotiations with DOE both the fee-bearing metrics and management systems which are to be included in the self-assessment are reviewed in a formal meeting in July of each fiscal year. Both parties discuss and evaluate the results of the previous self-assessment activities and propose changes to Appendix B of the M&O contract for the forthcoming year. The self-assessment portion of Appendix B is exhaustive and includes all management systems in the laboratory. In accordance with the Secretary of Energy memo, the Hamre Commission report, and the memo from Undersecretary Card, the laboratory in cooperation with DOE has actively sought ways

	discussed with DOE for inclusion in the formal self-assessment process.	to limit the number of measures included in the Appendix B. The laboratory and local DOE have been successful in selecting a reasonable number of measures that accurately depict the condition of the laboratory. Line managers continually seek ways to improve their operations and are cognizant of various metrics used to measure their management activities. Inputs from both industry and other similar DOE operations are considered. When useful, these metrics are adopted and used to improve the effectiveness and efficiency of that managers operation. They are not, however, included in Appendix B. The laboratory will continue with the current DOE approved plan with respect to Appendix B of the M&O contract, but will encourage managers to seek, continue to be aware of, and adopt management measures and best practices from industry and other DOE sites that will increase the efficiency of the laboratory. The Business Services Section will continue to identify opportunities for improvement in its self-assessment activities. Those opportunities and the response actions taken, resources permitting, will be documented in its annual functional self-assessment and balanced scorecard reports. The section will begin to work with other SC labs to identify additional business management metrics and benchmarks that would lend themselves to monitoring continuous improvement efforts and represent meaningful goals **Closed**
CP5	Fermilab has the necessary element to apply for the DOE or Occupational Safety and Health Administration, Voluntary Protection Program (VPP). Fermilab is encouraged to evaluate the value	A gap analysis of the Fermilab program against the Voluntary Protection Program criteria will be conducted through the ES&H Tripartite Assessment process. Complete in Third quarter 2005. (Complete 09/30/05).

	for obtaining the external certification of VPP.	**Open**
CP5	Fermilab should submit a best practices white paper to DOE's Office of Environment Safety and Health for the Safety Statistics Website.	Rather than write a white paper, which would not have been interactive due to the access privileges required to gain access to the ES&H database, individuals at other DOE Labs and in DOE/SC HQ were contacted individually, given temporary access privileges, and given a demonstration by the Head of the ES&H Section. This proved to be a more effective approach to sharing the best practice. Completed July 1, 2004 **Closed**
4.2.1	**Comments**: It is not clear the establishment of section goals includes full participation of the operations managers. Goals, that state laboratory vision and laboratory expectations, should be identified and shared with stakeholders. **Recommendation**: Develop and communicate Business and Finance goals.	Although general Business and Finance [sic] goals have been developed and communicated through the annual Director's budget reviews, more specific goals for each fiscal year will be identified and presented for discussion at that time. In addition, the Business Services Section Head will meet with each division and section head each year approximately mid-way between budget reviews to communicate any changes to specific business operational goals for the year, and to obtain customer feedback. **Closed**
4.2.2	**Comment**: Succession planning is an area that needs attention and has been identified in the past (e.g., DOE and URA reviews).	Progress on informal, succession planning within the Business Services Section has been made in the Accounting Department, Transportation Services Department, and Section Office. Attention to this subject will continue for the other departments through education, training, staff development and, when possible, hiring opportunities resulting from attrition.

	Another area for concern is the demographics of the procurement section, which indicates succession planning is required. The current leadership can provide the management for the administrative areas. However, a plan needs to be developed and executed to make sure that the right leadership is in place for the future of the Laboratory. **Recommendation**: Develop a succession plan for the administrative sections.	The concern regarding the demographics of the Procurement Department was previously noted by Business Services Section management and communicated to the Directorate and outside review teams. Some progress has been realized in the past few years via attrition and the replacement of staff (approximately 15%). We have set a goal for FY05 to research succession plans, develop, and propose a succession planning format for use by the entire Lab. After approvals, we will implement. Complete by September 2005 **Open**
4.2.3	**Comment**: Human resources recognized the need for workforce planning for the appropriate skill mix in the divisions; however, this process has not been implemented. **Recommendation**: Develop a laboratory-wide workforce plan to ensure the appropriate	Workforce planning for the Divisions is included in the annual budgeting process. For FY05 the Technical Division and PPD prepared fairly comprehensive workforce plans. Lab services has committed to develop a succession plan format in FY05. In FY06 we plan to expand on the work of TD and PPD, and develop a format that can be used Lab wide.

	skills mix for the future (human resources can provide the resources for this task).	Complete by September 2006 **Open**
4.2.4	See recommendation for staff planning in charter #2.	See Business and Finance Section – CP2 **Closed**

5. Infrastructure and ES&H		
No.	**Recommendations**	**Status**
CP1	Facilities and laboratory management might consider a single program survey, as well as multi-program laboratories regarding the efficacy of a space charge.	Any manageable alternative is unlikely to significantly increase efficient and effective use of space. See attached memo dated 11/22/04 from B. Chrisman and D. Nevin to K. Stanfield subj: DOE operations Review – Space Charge 22 November 2004 To: Ken Stanfield From: Bruce L. Chrisman & David Nevin Subject: DOE Operations Review – Space Charge This is in response to your memorandum of 5 November 2004 requesting comments on the DOE Operations Review finding relating to Charge Point 1 by the Infrastructure and ES&H group. In addition, I note that the subject of implementing a space charge was also raised by the previous Administrative Peer Review. In considering the efficacy of our implementing a space charge we considered the motivation for such a charge. As we see it there are two primary motivations: 1) management, and; 2) administrative. We consider these separately. 1) <u>Space Management and Funding Building Maintenance through a space charge.</u> One premise for a space charge is that it encourages those responsible for budgets to use space efficiently and allows for centralized control of building maintenance funding and costs. This presupposes that the allocation of space is performed by an organization separate from the organization that allocates budgets. This is certainly true at a multi-program laboratory where DOE Headquarters determines the budget for a given program and the space is under the overall control of the central laboratory organization. In this scenario the motivation for a space charge is to ensure that a program manager requesting space has some fiscal constraint on the requests put forward to the laboratory. In the case of Fermilab, and we submit single program laboratories in general, the space allocation organization is the same as the organization that allocates budget, namely the Directorate. Further, to take the responsibility of paying for the maintenance of space away from the occupant would discourage the most prudent use of these resources. While there may be some small costs savings related to the centralization of more building maintenance activities, any savings would be lost in an anticipated increase in requests for maintenance work that is not of the highest priority. 2) <u>Administrative.</u>

		The other motivation is similar to the first in that fiscal constraints on behavior that simplify the space allocation process can be effective and reduce administrative haggling over space issues. There is however, the question of costs associated with implementing a space charge system. These costs are considerable. First there is the extra effort imposed on the accounting organization to develop and to assess the costs each accounting period, typically monthly. The development of the cost to charge a particular tenant entails considerable effort in that issues arise such as the quality of the space and any changes necessary for a particular tenant. Simple systems such as a fixed cost per square foot can lead to unanticipated and inequitable outcomes resulting in one program effectively subsidizing another program thereby raising objections from some program managers. Further, administrative burdens arise once an organization begins allocating costs in such a manner. For example, distributing utility costs quickly comes under consideration, but to do this effectively, individual metering becomes essential and yet further work on cost distribution for the accounting organization. Unintended behavior can also result, such as during tight budget times forcing employees into unnecessarily small quarters when the laboratory has adequate unused space that is being held for a future program rather than being demolished. Such behavior then adds to the indirect burden of all programs. In addition to these considerations we performed the suggested survey of the other Office of Science single program laboratories (Ames, JLab, PPPL, and SLAC) and discovered that none of them has a space charge and some cited reasons of "… inadequate value added to warrant the administrative burden." We did not perform the suggested survey of Office of Science multi-program laboratories since we know most, if not all, such laboratories do utilize a space charge methodology for the reasons outlined in item 1) above. Our current system allocates occupancy costs proportionate to total labor costs through the Common Site Support indirect rate. Any manageable alternative is unlikely to significantly increase efficient and effective use of space at the Laboratory and is certain to require significant additional accounting and other administrative effort to implement and maintain, and thus leads us to conclude that this is not something that would be advantageous for Fermilab. **Closed**
CP2	Fermilab should review possible vulnerabilities in FESS staffing depth.	With the exception of an Electrical Engineer and two crafts people, FESS staffing is adequate. See attached memo dated 12/6/04 from D. Nevin to K. Stanfield; subj: DOE Operations Review–Staffing Depth. December 6, 2004 To: Ken Stanfield From: David Nevin Subject: DOE Operations Review - Staffing Depth

		This is in response to your memorandum of November 5,2004 requesting comments on the DOE Operations Review finding related to Charge Point 2 by the Infrastructure and ES&H group. Ed Crumpley, Bill Shull and David Nevin conducted a study of the possible vulnerabilities to the laboratory due to the apparent lack of depth in various positions within FESS. With the exception of the need for a licensed Electrical Engineer and a back up for the Budget Officer, it was determined that FESS was staffed adequately to meet its obligations to the laboratory at the current activity levels. Within the Administrative ranks, only the position of Budget Officer appeared to be lacking back-up capacity. This vulnerability was mitigated by the promotion of Martha Garcia to the position of "Budget Financial Assistant" reporting directly to Linda Finks, - FESS Budget Officer. Training, both tutorial and hands-on, will continue for at least one year in order to bring Martha completely up to speed to be able to take over as needed in Linda's absence. The Engineering Group staff within FESS has been reduced over the past few years to better reflect current activity at the laboratory. This strategic process has reduced some of the depth within the various disciplines but our engineering staff is capable of filling in for those losses. If the activity level increases, we plan to first go to our outside A&E firms to hire the engineering capabilities needed. One position that is currently open and which needs to be filled is that of a licensed Electrical Engineer. The funding for this position is included in our FY 2005 budget and steps have been taken to search for good candidates. The Operations Group is maintained within its currently funded and approved level. The addition of two (2) more crafts people was discussed at the FY 2005 budget presentation and funding for this was requested. Both the Infrastructure Management and Services groups are at adequate strength and depth to fulfill their obligations to the laboratory. **Closed**
CP3	Alternative plans to address the other known recapitalization needs should be developed.	While we agree with this recommendation, few alternative methods for recapitalization of assets outside of direct funding exist. The lab is working on a potential opportunity for replacing aged high voltage electrical transmission lines. As other opportunities arise, they will be fully explored. December 6, 2004 To: Ken Stanfield From: David Nevin

		Subject: DOE Operations Review - Recapitalization Plans and Infrastructure Renewal **CP-3**- Alternative plans to address the other known recapitalization needs should be developed. Since the time of the DOE Ops review, the lab in cooperation with DOE Fermi Site Office and HQ have entered into discussions with the City of Batavia to investigate mutually beneficial solutions to high voltage electrical transmission infrastructure needs. In support of this, DOE FEMP has funded a utility options study and the City of Batavia has funded an alternative transmission study both of which are required to support Batavia's request for easement to support a transmission line across the site. Additionally, the lab has learned that Commonwealth Edison, our serving electric company, has a financing program for infrastructure reinvestment that can become part of the monthly electricity bill. The lab is also developing an FY05 project that will extend our domestic water pipeline to allow the lab to purchase all site domestic water from a neighboring municipality and allow the decommissioning of the shallow well water production facilities. At this time, other utility systems including sanitary, industrial water, and domestic water and the lab's building recapitalization needs are intended to be funded through operating or line item funding requests many of which are in the planning stage as listed in the lab's Ten Year Site plan. Date for CP-3 - The completion of the Batavia alternative transmission route study is scheduled for late January 2005. It will be at this time that the lab will know what benefit may be possible for laboratory high voltage infrastructure. We will continue to investigate opportunities beyond this as the opportunities arise……. **Closed**
5.2.1	Evaluate potential for savings by grouping procurements of similar infrastructure projects currently being done by individual facility landlords.	The Procurement Department has a long-standing practice of identifying and grouping procurements to achieve savings through favorable pricing and economies of scale of indirect effort. Notable success in this area has been achieved for both commodity and service procurements. The department will continue to seek input from projects and operational units at the Laboratory to consolidate procurements. It will also continue to monitor the inflow of purchase requisitions for unforeseen opportunities. Through its facility information management system and Building Manager program, FESS will continue to collect input for maintenance and infrastructure repair and improvement needs from individual facility landlords in order to evaluate the potential for savings through consolidated procurements across divisions and sections. Examples of such procurements are electrical systems, roof repairs, landscaping, paving, and HVAC. **Closed**

5.2.2	Evaluate, using a laboratory-wide team, outsourcing potential in ES&H.	A lab wide team has been formed and evaluations will be performed in first quarter of 2005. See memo below in section 5.2.4 dated 11/30/04, subj: ES&H Outsourcing Study. **Closed**
5.2.3	The Fermilab Area Office should seek authority to exploit alternatives to DESC for future utility procurements.	FSO has evaluated this recommendation and has met with DESC. Consultants have been retained. Decision has been made to remain with DESC, and DESC has agreed to provide better service to accommodate past deficiencies.. **Closed**
5.2.4	Notwithstanding the previous outsourcing study by the ES&H Section, a laboratory-wide committee on strategic sourcing of ES&H should be considered.	A lab wide team has been formed and evaluations will be performed in first quarter of 2005. See attached memo dated 11/30/04, subj: ES&H Outsourcing Study. November 30,2004 To: Dave Carlson Bruce Chrisman Paul Czarapata Dave Nevin Vicky White From: Jed Brown **SUBJ: ES&H Outsourcing Study** I write to request that you serve on a panel to review and make recommendations to the Director concerning the outsourcing of Fermilab ES&H functions. The Operations Review last spring provided recommendations to which the lab must respond. The two recommendations that this panel will address are: • **No 5.2.2** "Evaluate, using a laboratory-wide team, outsourcing potential in ES&H."

- **No 5.2.4** "Notwithstanding the previous outsourcing study by the ES&H Section, a laboratory-wide committee on strategic outsourcing of ES&H should be considered." [sic]

The following ES&H functions will be evaluated.

- ES&H training
- Fermilab Fire Department
- Medical Department
- Radionuclide analysis
- Radiation Instrumentation Calibration services
- Waste Management services

The ES&H Security Services function is already outsourced and will not be further evaluated.

We will meet Thursday, February 10, 2005, at 12:30 pm in the Comitium for two (2) hours. If you cannot attend, please send an appropriate representative.

GCB:pam

cc: W. Griffing
K. Stanfield

OUTSOURCING STUDY OF ES&H SERVICES
January 24, 2005

Evaluator: _____

Recommendations

Function	Remain In-house	Outsource	Comments
INSTRUMENTATION	6		
RADIOACTIVE ANALYSIS	6		
WASTE MANAGEMENT	5		1 blank
ES&H TRAINING	6		
FIRE DEPARTMENT	6		
MEDICAL DEPARTMENT	2		4 blanks “need more info”’ “not yet convinced”; “not clear”

Closed

6. Management		
No.	**Recommendation**	**Status**
6.2.1	**Comment** from Executive Summary: However, Fermilab does not have a formal program of benchmarking best practices with similar organizations in the DOE complex or with industry. **Recommendation**: Institute a formal benchmarking program with other high energy and nuclear physics laboratories to assess the efficiency of laboratory operations.	Current Status Fermilab recognizes the usefulness of benchmarking as a management tool. It is not used as a default management tool and utilizes benchmarking where warranted to aid in the solution of issues that can be addressed using benchmarking techniques. Currently the laboratory has one benchmarking project underway; foreign travel approval. The laboratory will continue to selectively use the benchmarking process in the future where it is applicable and cost effective. Proposed Action Continue the laboratory's current strategy. **Closed**
6.2.2	Implement rolling two-year Memorandums of Understanding among the collider collaborations, their university collaborators, and Fermilab that define their responsibilities and commitments for support, so that the	Many of the MOUs between major experiments and their member institutions are not routinely examined by the Fermilab Directorate. Plan: 1) Obtain information about the current status of all Collider Experiment MOUs. 2) Develop plan to ensure annual review and appropriate updates. Put the plan into routine action. 1) completed: 10/2004 2) In progress, due 3/2005 3) Planned 10/2005

	Fermilab Directorate can anticipate future manpower needs.	**Open**
6.2.3	Explore trade-offs in centralizing common support activities.	Many of the common support activities are centralized at Fermilab. That is to say, one Division or Section is responsible for providing support for the entire laboratory in the specified arena. Examples of this are too numerous to list but include: procurement, accounting, shipping and receiving, surveying, networking, and email servers. Laboratory management continually searches for ways in which to gain efficiencies and/or improved performance in support services and there is a presumption that centralizing such activities has the potential to be more efficient or to provide improved performance. A recent example is the centralization of CAD system management within the Technical Division. The formal mechanism for reviewing opportunities for centralizing common support services is the annual review of all Division and Sections. These reviews called "Budget Reviews" are, in fact, reviews of management, mission, program, staffing, and budget. These reviews are attended by all Division and Section managers and the directorate of the laboratory. In the context of ever tightening resources Division and Section managers are encouraged to suggest opportunities for efficiencies and productivity improvements and these are to include opportunities for centralizing common support services. The example given above, CAD systems, was an outgrowth of this process. In the case of building maintenance the landlord division or section maintains responsibility while FESS provides centralized condition assessments, engineering expertise and management of much of the maintenance activity. Two task forces are being created to study central support issues with regard to computing support. (see Research CP2) **Closed**
6.2.4	Develop a realistic plan for infrastructure renewal. "Pay now or pay more later."	Addressed with 2004 lab funded $2.1million towards renewal and the budgeted 2005 GPP funds. See attached memo from D. Nevin to K. Stanfield dated 12/06/04, subj: DOE Operations Review – Recapitalization Plans and Infrastructure Renewal December 6, 2004 To: Ken Stanfield From: David Nevin

		Subject: DOE Operations Review - Recapitalization Plans and Infrastructure Renewal **….Recommendation 6.2.4** - Develop a realistic plan for infrastructure renewal. "Pay now or pay more later". Note: It is believed that the terms renewal and recapitalization (from CP-3 above) are used interchangeably. Status of 6.2.4 - By far the highest priority for laboratory infrastructure renewal is the high voltage electrical distribution feeders and other utility systems. Since the time of the DOE Ops review, the lab funded $2.1M in FY04 towards renewal of electrical feeders and has identified $4.0M in FY05, $4.5M in FY06 and another $3.1M in FY07 towards High voltage electrical. Additionally, the FY05 GPP budget includes funding to start the industrial cooling water (ICW) piping renewals. The FY05, 06 and 07 ICW funding will allow the completion of a vulnerability study, completion of the highest vulnerabilities and a plan for future $7M of funding requirements on the ICW system. In addition to the ICW system, renewal projects for the lab's sanitary system at $3M and domestic water system at $4M are identified in the Ten Year Site Plan and will be presented in future budget requests for funding to compete with other lab priorities. Also identified in the near term GPP list is a project for renewal and reuse of an existing facility to satisfy growing needs of the lab's computing division. Date for 6.2.4 - With the projects identified in the current Ten Year Site Plan and current GPP list, this action for a realistic plan is considered complete. **Closed**